



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: G. R. Perfetti, P. E.
State Bridge Design Engineer

DATE: February 4, 2003

SUBJECT: JOINT SEALS

The Evazote Joint Seal Figures 6-43 and 6-44 in the Design Manual have been revised and are attached for your use. In addition, the formula for calculating Total Movement (M_{Tot}) has also been revised.

Figures 6-43 and 6-44 detail the revised design temperatures and total movement formula. The minimum joint installation temperature for evazote joints has been increased from 30°F to 45°F (0°C to 7°C).

The total movement formula and temperature revisions are a result of research completed for the National Cooperative Highway Research Program entitled "Thermal Movement Design Procedure for Steel and Concrete Bridges." This report establishes Extreme Maximum and Extreme Minimum design temperatures throughout the United States to be used in a new formula for calculating a design temperature range. The evazote joint sizing and installation revisions are in response to manufacturer recommendations and concerns from the Construction Unit regarding installation problems of the joint material.

The optional compression joint seal will no longer be allowed and therefore should not be shown in the plans.

Continue to design substructure units by the temperature ranges given in the AASHTO Standard Specifications.

This policy is effective as soon as practicable, but no later than the September 2003 letting. The Design Manual will be updated at a later date.

GRP/DBM

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Attachments

[Fig. 6-43 \(English\)](#)

[Fig. 6-43 \(Metric\)](#)

[Fig. 6-44 \(English\)](#)

[Fig. 6-44 \(Metric\)](#)

cc: R. V. Keith, P. E., with Attachments
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